

ČEZ ENERGETICKÉ PRODUKTY S.R.O.



**ASAM**  
ASOCIACE STAVEBNÍCH  
ALTERNATIVNÍCH MATERIÁLŮ



# **Current challenges in the field of using fly ash as alternative materials for construction, view from the Czech Republic**

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*Interní*

# Today's key indicators

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Environmental challenges



Regulation, legislation



A shift away from coal-fired power generation



Material and energy crisis



Social aspects



Sustainability - meaningful

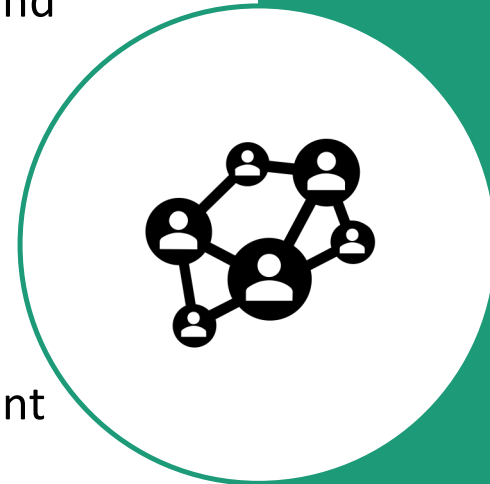
# Solutions to ensure sustainability

- Primarily the answer to the question, what do we want to keep for sustainability? Socio-economic aspects, quality of life, the prosperous environment in which we live and, above all, common sense == === ==→ **business**
- Are changes in the concept and view of energy products and other alternative materials necessary? -> Change at the European level

## ?How to achieve this?

- Multidisciplinary cooperation
- Exact data
- Criterion for technical conditions, so that it reflects current possibilities. Regional description of material availability.
- Demonstration tests, implementation of new products with an almost zero carbon footprint,
- Evidence studies -> implementation of data into decision-making processes

-> **We have billions tons of lowcarbon material here in Europe**



# Products from Coal combustion by-products – ecological benefits

- Production = reclassification as raw material = separate regulation outside the waste legislation! **Just raw material!**
- Products = the possibility of maximizing the use of decarbonization and environmental effects!
- Fulfillment of EU indicators of the impact of industry on the environment, human health and quality of life.
- Economic benefits - market potential + savings in emission allowances - **benchmark comparison!**



- **Socio-economic influences** - sustainability of the construction industry in the EU

Carbon footprint of individual construction products per ton

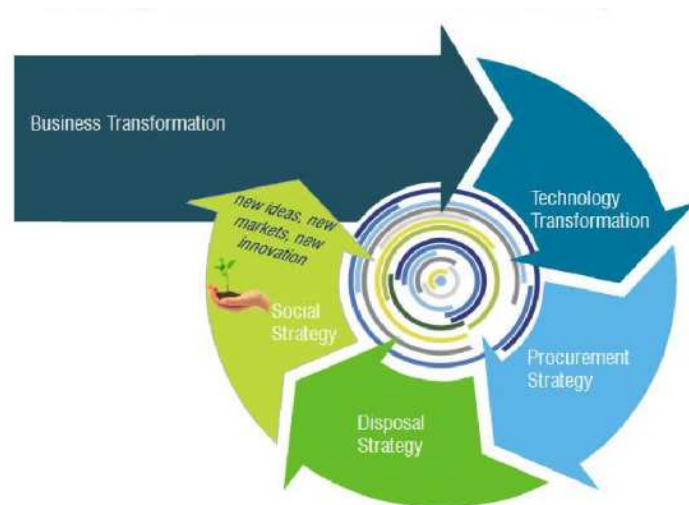
**Cement = 0,723 t CO<sub>2</sub> per ton**

**Green binder = 0,043 – 0,140 t CO<sub>2</sub> per ton**

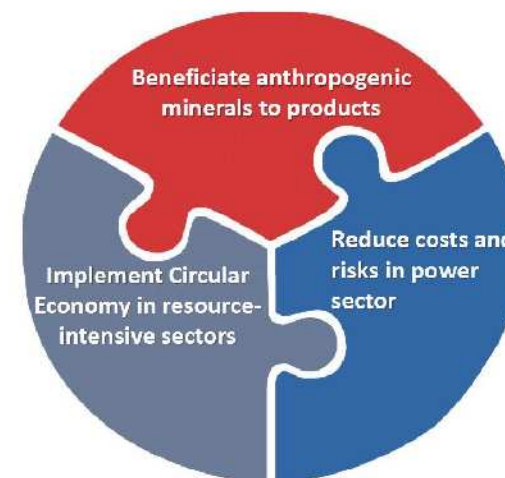
**Raw material = 0,021 t CO<sub>2</sub> per ton**

# New products, increased availability, storage of fresh production – opportunities to increase profits and CO2 saves

- Change of energetic concept for Czech republic:
  - Share of electricity production from coal year 2020 - 40% ->Year 2025 - to 25% ->Year 2030 - to 12.5%
  - ➔ **Energetic crises changed situation -> operation of coal power plants is prolonged**
- Changing philosophy
  - It is necessary to save the production of flyash and gypsum by controlled storing!
  - We want to send the message that we have material in the volume of tens of hundreds millions of tons. It is possible to process it and still maintain the sustainability of the market for the construction industry
- Prioritize to set ash extraction from landfills.
- Produce a new ecological binder to concrete from ash from fluidized bed boiler
- To build giant storing places for the current production of fly ash and gypsum., LCA studies, EPD for products.



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# Strategy

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- There is running process of changing official status of CCPs in Czech Republic - - > product/source of CF materials!
  - LCA studies -> EPD for materials
  - Preparing the own regulation for CCP's as a important raw material
  - Preparing for definition for strategic storing as a raw building material
- ⇒ strategic minerals for building industry > fulfilling of all EU environ. criteria
- ⇒ CO2 savings
- ⇒ International cooperation
- ⇒ Name the benefit for each business participant

